

Washington Natural Gas Supply

Regional supply

Washington State imports its natural gas from two nearby gas producing regions: the Western Canadian Sedimentary Basin (WCSB) which is located primarily in the Canadian provinces of Alberta and British Columbia, and the Rocky Mountain gas basins, located primarily in Wyoming, Utah and Colorado. Approximately 60% of or natural gas comes from Canada and 40% from the Rockies. The natural gas is brought to customers in Washington and beyond by two pipelines; the Northwest pipeline which connects to both the Canadian and Rocky gas basins, and the Pacific Gas & Electric Gas Transmission Northwest (PG&E GTN) pipeline which connects to the Canadian gas producing regions. The PG&E GTN pipeline is used primarily to transport gas to California, but does supply Washington to some extent. The WCSB and Rocky gas basins used to have limited pipeline export potential, which resulted in lower natural gas prices for the west coast. Over the last decade a couple large pipelines have been completed (or capacities of existing pipelines increased) so that the WCSB and Rocky gas basins are now well connect to the Midwest and Southwest. These interconnections have helped create a continental natural gas market, which means large scale disruptions in one part of the continent can have sizable impacts in other regions.

Natural Gas Use

Since much of our imported natural gas is used to heat homes and businesses, annual usage varies significantly depending on the severity of the winter. Over the last five years Washington State has consumed an average of 260 Billion cubic feet (Bcf) per year. The consumption by sector is as follows: residential 29%, commercial 19%, industrial 28%, electric power 24%. Natural gas use in Washington State grew steadily during the 1990s at about 3% per year, but the high gas prices of the past several years have cut the growth rate substantially. Much of the recent growth in gas usage has been in the electric power generating sector.

Recent Trends in Natural Gas Prices

Natural gas prices have been high by historical norms for most of the last five years (prices were lower during most of the 2001 – 02 recession). Wellhead natural gas prices (price at the natural gas producing basin) averaged about \$2.5 per thousand cubic feet (Mcf) during the 1990's, but averaged about \$5.5 per Mcf in 2004 and are likely to average \$7 per Mcf in 2005. Because there are sizable transportation and distributions costs imbedded in commercial and residential gas bills the apparent price increase for customers is smaller: commercial 80%, residential 50(+)% . The primary reason that prices are high is that North American natural gas production has been flat for the past five years despite record levels of drilling brought on by high gas prices. Any disruption in natural gas production, such as caused by hurricane Katrina, has a sizable and immediate impact on natural gas prices.

Gas Storage

During peak use days in the winter gas consumption exceeds the supply capacity of the gas producing regions and pipelines, and so several gas storage facilities are located in the Pacific Northwest. There are a large number of gas storage facilities across the nation, which are used to moderate seasonal demand and prices. Generally these gas storage reservoirs are filled from

April through early November. Nationally, the combined working gas storage capacity is just over 3.3 Trillion cubic feet (Tcf), a volume equivalent to about 15% of the annual gas volume used. Currently gas storage is at about 2.6 Tcf, but the storage additions have been low throughout the summer. In addition damage from hurricane Katrina, has cut into the nation's ability to store gas, and it is likely that we will enter the winter heating season with gas storage below optimal levels.

Impact of Hurricane Katrina

The Gulf coast region produces about 10 Bcf per day of natural gas, or about 18.5% of total average U.S. production and 16% of total average U.S. consumption. Hurricane Katrina initially (August 30) shut-in 88%, or 8.8 Bcf per day, of the Gulf's natural gas production. Seven days later on September 6 the shut-in volume was down to 41%, while after another week on September 13 shut-in volume had declined only incrementally to 37(+) %. Because of Katrina a substantial volume of natural gas has been unable to reach the market or been sent to storage. Consequently prices have been 10 to 15% higher, averaging around \$11 per Mcf on the NYMEX commodities exchange. The Energy Information Administration has updated its winter fuel price report and is forecasting that natural gas prices will be approximately 50% higher this winter (average of all users across the nation). Because we are relatively far from the Gulf cost the price increases in Washington State will be less than the composite number forecast by the EIA: see figure below.

Actual and Forecast Natural Gas Prices: 2005-2006

